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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,570	03/29/2001	Thomas C. Mesing	13DV14029	3495

29399 7590 10/28/2002
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ST. LOUIS, MO 63102-2740

EXAMINER

COMPTON, ERIC B

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 10/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,570

Applicant(s)

MESING ET AL. *cr*

Examiner

Eric B. Compton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11, 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11, recitation of the trademarked product "Teflon" is indefinite. MPEP § 2173.05(u).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11, 13-17, 19, and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,095,170 to Stanley et al in view of US Patent 4,111,499 to McCloskey.

Stanley et al disclose a method for manufacturing a bearing element comprising the steps of: forming a plurality of layers (12,14) from a combination of a first material

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(glass fibers with Teflon, 12) and a second material (glass fibers, 14); forming a bearing element from the plurality of layers; and impregnating the bearing element with a polyimide resin.

However, Stanley et al do not disclose that the polyimide resin comprises Teflon.

McCloskey discloses a method for manufacturing a bearing comprising fibers (4) impregnated with polyimide resin matrix having a random dispersion of polytetrafluoroethylene (Teflon) particles (see Figure 3). McCloskey discloses that the bearing material "includes a dry self-lubricating material for providing a low sliding friction surface, and which is wear resistant under heavy and constant loads and is further capable of operating in a hostile environment ..." (col 1, lines 45-50).

Regarding claim 11, it would have been obvious for one of ordinary skill in the art at the time of invention, to have formed the bearing of Stanley et al using a polyimide resin comprising Teflon, in light of the teachings of McCloskey, in order to provide a better friction surface.

Regarding claim 13, Stanley et al disclose that the first and third layers (12) comprises the first material (glass fibers with Teflon fibers), and the second layer (14) comprises the second material (glass fibers).

Regarding claim 14, Stanley et al disclose that the layers are woven fabric (col 1, lines 120-125).

Regarding claim 15, Stanley et al disclose that weaves are known in the art (col 2, lines 75-84) and that various interweaving can be utilized for various strength

characteristics. Therefore, a skill artisan would have found it obvious to use a braided layer, since braids are a well-known weave design.

Regarding claim 16, McCloskey et al disclose that the polyimide resin includes Teflon particles (i.e. powder).

Regarding claim 17, Stanley et al disclose that layers may impregnated or bonded together with an epoxy.

Regarding claim 19, quartz is essentially naturally occurring glass fiber. Therefore, a skilled artisan would have found it obvious to use either, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 20, Official Notice is taken that silane is a well known coupling agent.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley et al/McCloskey as applied to claim 3 above, and further in view of US Patent 3,873,168 to Viola et al.

Stanley et al/McCloskey disclose the invention cited above. However, they do not disclose the substituting carbon fibers for glass fibers.

Viola discloses a bearing formed almost identical to that of the Stanley et al comprising: forming a plurality of layers (12,14) from a combination of a first material (graphite fibers, 12) and a second material (glass fibers, 14); forming a bearing element from the plurality of layers; and impregnating the bearing element with a polyimide resin.

Regarding claim 18, it would have been obvious for one of ordinary skill in the art at the time of invention, to have formed the bearing of Stanley et al/McCloskey using carbon fibers, in light of the teachings of Viola et al, in order to provide a more wear resistant bearing.

Response to Arguments

6. Applicant's arguments filed September 12, 2002, have been fully considered but they are not persuasive. Applicants' primary argument is that the Examiner had not established a prima facie case of obviousness with respect to Stanley et al and McCloskey. As previously pointed out, Stanley et al teach the present invention except for disclosing that the polyimide resin comprises Teflon. McCloskey discloses a bearing comprising fibers impregnated with a polyimide resin matrix having a random dispensing of Teflon particles. The Examiner had previously pointed out, that McCloskey discloses that the including of the Teflon in the polyimide resin "is wear resistant under heavy and constant loads and is further capable of operating in a hostile environment at temperatures ranging from -100° to +500° F" (col 1, lines 48-50). Clearly, McCloskey provides for a better friction surface as noted by the Examiner in the motivation rationale for combining the reference. Applicants' additional arguments are moot.

Therefore, the rejections above are valid.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (703) 305-0240. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory M. Vidovich can be reached on (703) 308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are (703)


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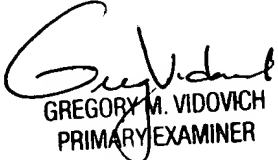
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872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

ebc 
October 23, 2002.


GREGORY M. VIDOVIK
PRIMARY EXAMINER